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Tests on X-45A to be conducted at wind tunnel

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WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Researchers from the Air Force Research Laboratory's Air Vehicles Directorate will complete a series of tests on the X-45A on May 23.

Tests, to be held at the Subsonic Aerodynamic Research Laboratory (SARL) wind tunnel, are intended to demonstrate the rapid prototyping processes in a joint experimental and computational effort for an Unmanned Combat Air Vehicle configuration. These tests mark the beginning of a new phase of testing for the program that will research aerodynamic force, moment and pressure measurements, as well as advanced surface and flow field diagnostics. Tests to be conducted include the use of Pressure Sensitive Paint, a new tool developed by Innovative Scientific Solutions Inc. that provides detailed information on surface pressure measurements, airflow, and structural dynamics without the presence of a sensor tainting the data.

Results will be collected into a comprehensive experimental database and compared with results from computational fluid dynamic experiments performed at the Computational Sciences Center of Excellence. A precursory examination of the data acquired already shows a correlation to the computational fluid dynamics (CFD) solutions previously performed. Continued SARL testing is expected to further validate and verify the CFD data, as well as aiding ISSI in continued development of their pressure sensitive paint. @